

## Patent Abstracts of Japan

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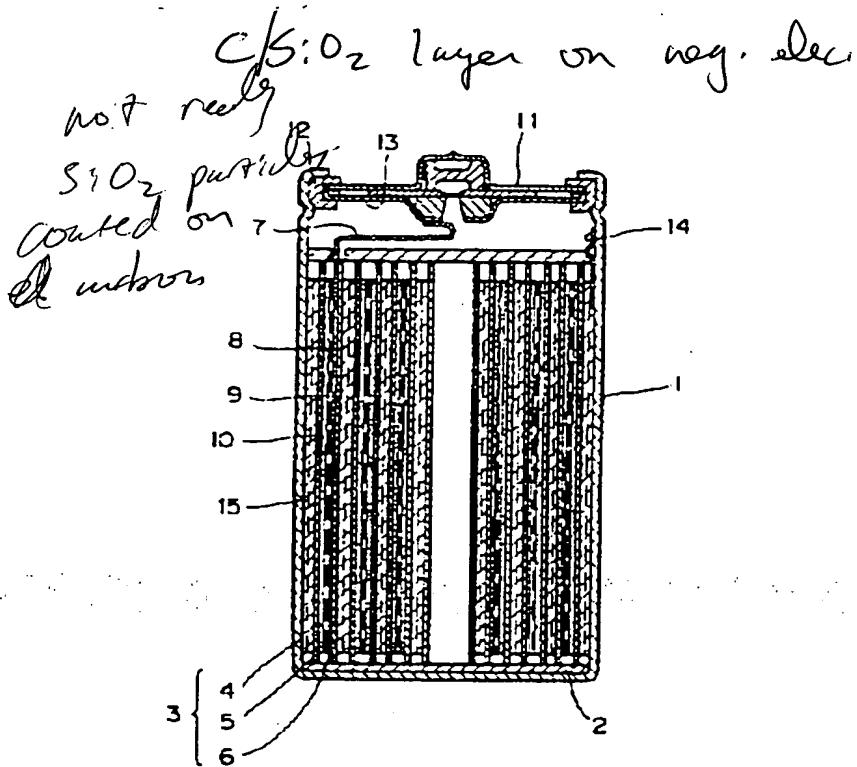
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TITLE : SECONDARY BATTERY



**ABSTRACT :** PURPOSE: To increase reliability during charge/discharge in a secondary battery, in which an active material is Li or alkaline metal composed mainly of Li, by constituting a negative electrode body especially of a carbonaceous material having specific H/C atomic ratio and crystal structure and an inorganic silicon compound.

**CONSTITUTION:** Li or alkaline metal composed mainly of Li is used as an active material. The chief ingredient of a positive electrode body 6 is transition metal oxide such as  $MnO_2$  or  $V_2O_5$ , transition metals such as  $LiCoO_2$  and a compound oxide of alkaline metal. A negative electrode body 4 has a specific structure, and H/C atomic ratio is less than 0.15, and spacing ( $d_{002}$ ) of (002) plane by means of an X-ray wide angle rotation method is  $3.37^\circ$  or more, and size  $L_c$  of crystallite in the C axial direction is  $150^\circ$  or less. A layer of a carbonaceous material containing Si or  $SiO_2$  and/or the like by 0.05-1.2 weight% is coated over the surface of the carbonaceous material. According to this constitution, a battery capacity is not reduced so significantly, so that a secondary battery having high reliability during charge/discharge can be obtained.

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